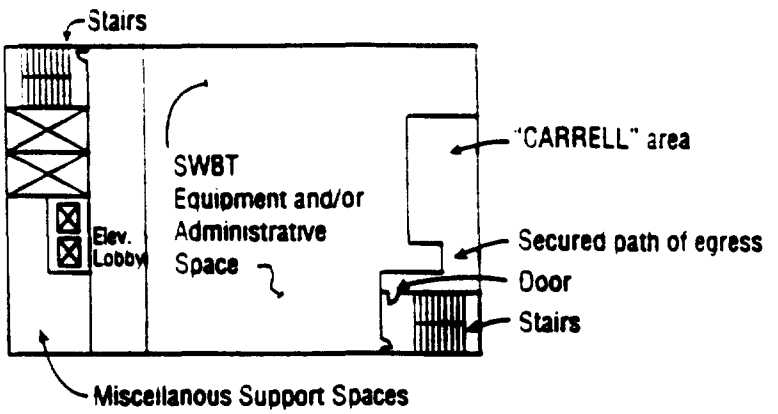
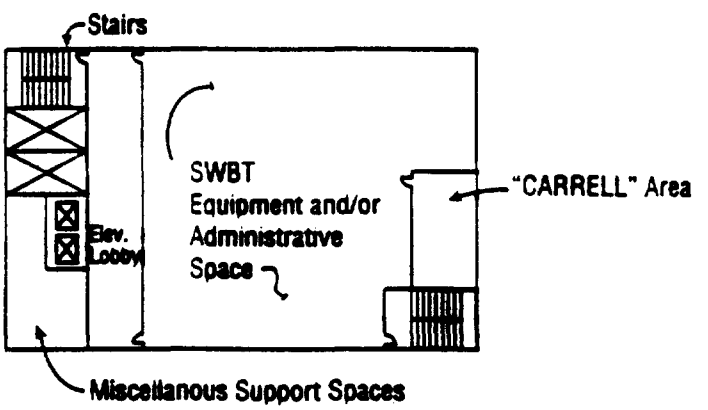



Build a "CARRELL" space in a large size company building, to hold Interconnector "CAGES". and build a secured path of egress to the exterior of the building. Provide HVAC, electric & alarms as required. Alarm the exterior door.

## Figure 7.E.5 - Design Solution No. "1L"

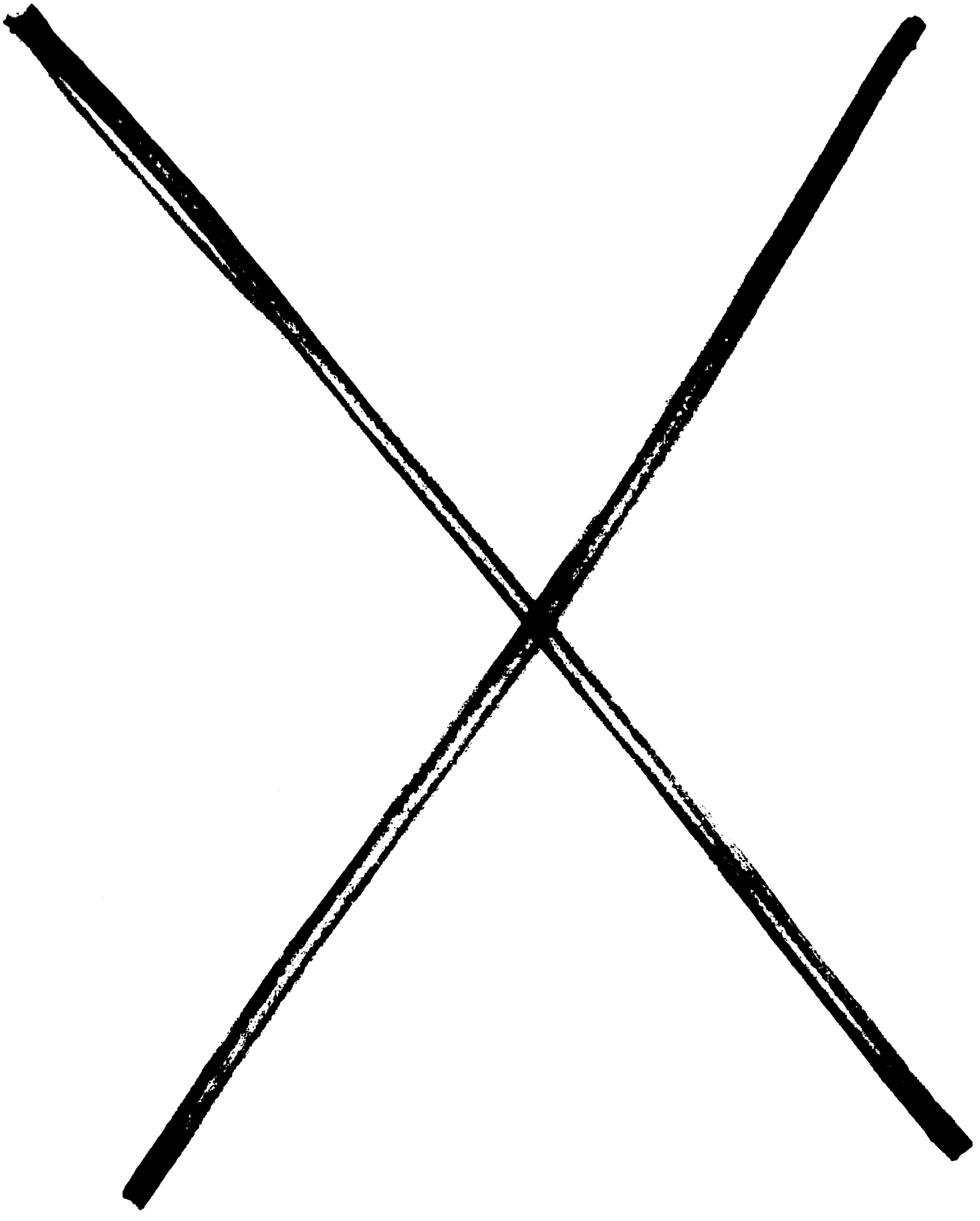
**(Large Buildings)**




Build "CARRELL" space in this large central office, to hold Interconnector "CAGES", and provide a company "Security Escort" from the exterior to the "CARRELL" for the Interconnector. Provide HVAC, electric & alarms as required. Do not alarm the door to the "CARRELL" space.

## Figure 7.E.6 - Design Solution No. "2L"

**(Large Buildings)**



APPENDIX 4

This Appendix details the development of SWBT's overhead loading factors.

Overhead is that portion of a rate or charge that exceeds the direct cost or Incremental Unit Cost (IUC) of providing the service. The overhead amount reflected in a rate or charge recovers the joint and common costs of the firm.

To identify the overhead amount or factor of a given service, the rates and costs for all subelements of the service must be analyzed. To that end SWBT developed the total revenues and total direct costs for DS1 and DS3 service.

Total revenues were developed by multiplying the February 1993 rate by 1991 base period demand by individual rate element. These data sets were used as they were the latest available data at the time of the filing.

Next, SWBT developed the direct costs or IUC for each DS1 and DS3 element. The IUC reflects the direct capital costs associated with Depreciation, Cost of Money and Federal Income Taxes. In addition direct costs reflecting maintenance, administration and other taxes are included.

These cost components are based upon the amount of direct investment estimated to provide the service. The investment is based upon network designs developed by SWBT's design engineers. This method is required as Part 69 cannot provide any meaningful data below the special access level of detail. In addition, overhead amounts reflected in Part 69 data (i.e., ARMIS) do not reflect the underlying direct investment required to provide a unit of service.

As with the development of the revenue component, 1991 base period demand was multiplied by the IUC for each DS1 and DS3 element to determine the total direct cost to provide DS1 and DS3 service.

The final step in the process is to divide total revenues by total direct costs. The resulting overhead loading factor reflects the amount of overhead contained in the revenues derived from the services.

The resulting overhead loading factor from this process was multiplied by the direct cost or IUC associated with interconnection rate elements. As stated in SWBT's initial filing, the DS1 overhead loading factor was applied to DS1 elements, the DS3 overhead loading factor was applied to DS3 elements and the combined DS1/DS3 overhead loading factor was applied to interconnection elements that could not be attributed solely to DS1 or DS3 (e.g., the POT Frame). In addition, these overhead loading factors are appropriate as interconnection elements should

reflect the same amount of overhead reflected in the substitutable DS1/DS3 services.

Also, any removal of direct cost from interconnection elements (such as the adjustment to conduit, DC power and cross connection charges)[1] should be matched with a corresponding adjustment to the DS1 or DS3 IUC. For example, if some portion of direct administrative expense is removed from DC power the same administrative expense should be removed from all DS1 and DS3 IUC's. If the direct administrative cost is inappropriate in interconnection elements it is also inappropriate to include the expense in the DS1/DS3 IUC's. This process will result in an increase in the overhead loading factor as the total cost amount in the revenues divided by costs will be reduced. Finally, the administrative expense included in the direct costs is a direct cost administrative cost and not general or common administrative costs.

Finally, it is appropriate to include all term and volume options in the determination of the overhead loading factor as some interconnection elements represent volume provisioning. For example, as indicated in the tariff the DS1 and DS3 interconnection arrangement provides volumes of 84 and 24, respectively.

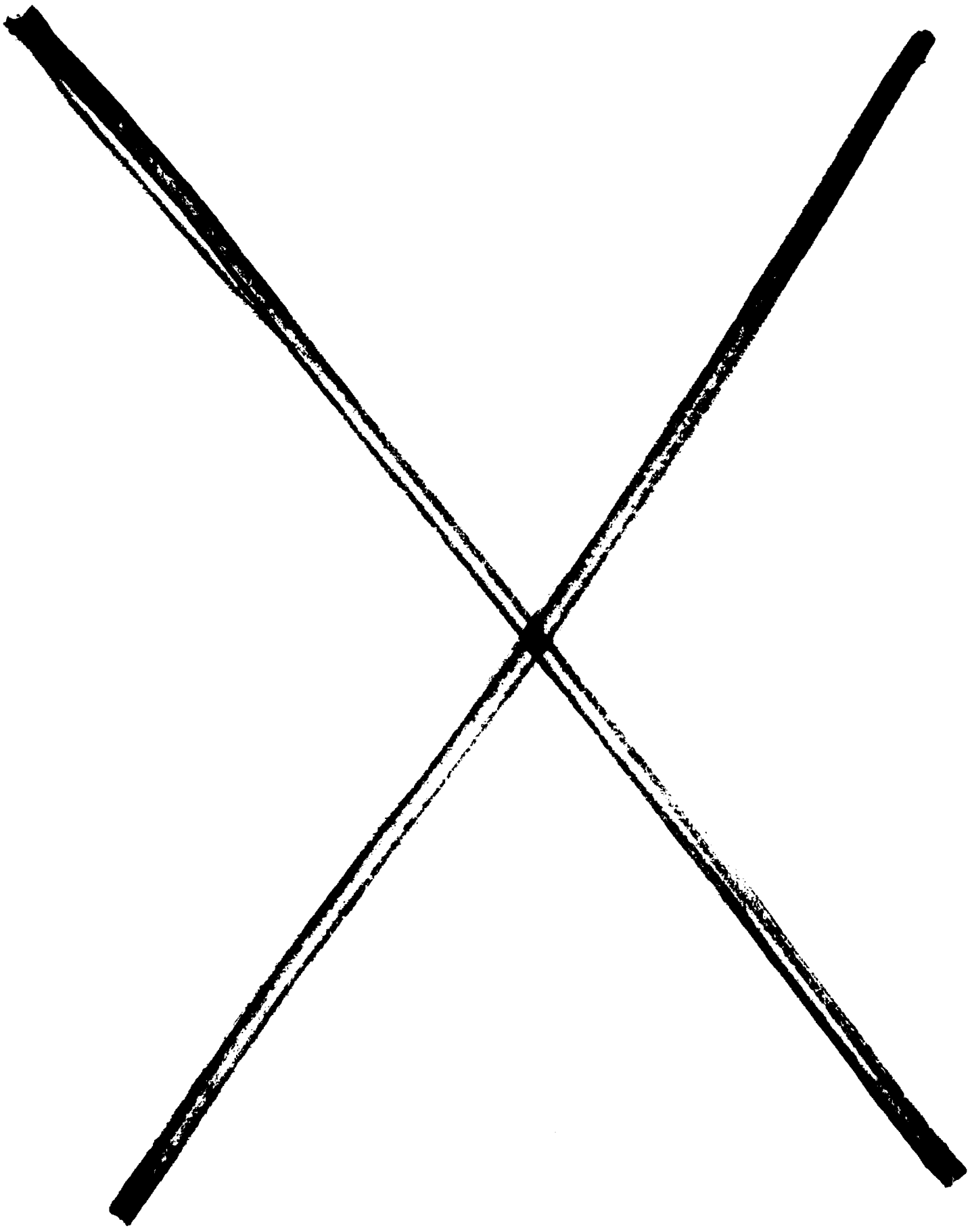
The rates originally proposed by SWBT reflected the same amount of overhead contained in SWBT's DS1 and DS3 services. Changes reflected in the TRP generally result from adjustments made to reflect the removal of GSF and corrections to the underlying DS1 and DS3 costs used in the initial filing. In addition, the DC Transmission element reflected the same overhead on investment based costs incurred by SWBT. SWBT applied the overhead loading factor to investment based costs and then added estimated charges for AC power so as to avoid applying overhead to a 'pass on' charge.

---

[1] See, Application for Expedited Review of SWBT, filed July 9, 1993, at p. 12.

# OVERHEAD LOADING FACTORS

| | TOTAL COSTS | TOTAL REVS | OVERHEAD FACTOR |
|---|---|---|---|
| DS1 | | | |
| MTM | $51,272,385 | $115,649,680 | 2.2556 |
| TERM OPTIONS | $229,001 | $331,239 | 1.4465 |
| TOTAL | $51,501,386 | $115,980,919 | 2.2520 |
| DS3 | | | |
| MTM | $1,178,756 | $3,315,525 | 2.8127 |
| TERM OPTIONS | $8,172,853 | $30,761,149 | 3.7638 |
| VOLUME OPTIONS | $15,210,236 | $60,461,965 | 3.9751 |
| TOTAL | $9,351,609 | $34,076,673 | 3.6439 |
| DS1/DS TOTAL | $60,852,995 | $150,057,593 | 2.4659 |



**SWBT MODEL OFFICE - COST OF PROVISIONING 100 DS1s**

| 1. NONRECURRING CHARGES | RATE UNDER INVESTIGATION | REQ/ 100 - DS1 | TOTAL NRC | RAF % | RAF'D RATE | RAF'D TOTAL NRC |
|---|---|---|---|---|---|---|
| CONSTRUCTION CHARGES* | $46,641.55 | 1 | $46,641.55 | 100.00% | $46,641.55 | $46,641.55 |
| INTERCONNECTION CROSS CONNECT - NEW | $125.00 | 50 | $6,250.00 | 100.00% | $125.00 | $6,250.00 |
| RECONFIGURATION CHARGE - 1ST | $211.00 | 1 | $211.00 | 100.00% | $211.00 | $211.00 |
| ADDL. | $177.00 | 49 | $8,673.00 | | $177.00 | $8,673.00 |
| **TOTAL NRC** | | | **$61,775.55** | | | $61,775.55 |
| EQUIV. MONTHLY PAYMENT OVER 5 YEARS @ 11.25% | | | **$1,350.86** | | | $1,350.86 |

| 2. RECURRING CHARGES | RATE UNDER INVESTIGATION | REQ/ 100 - DS1 | TOTAL MONTHLY | RAF %** | RAF'D** RATE | RAF'D TOTAL** MONTHLY |
|---|---|---|---|---|---|---|
| CO FLOOR SPACE/100SQ. FT. | $157.00 | 1 | $157.00 | 100.00% | $157.00 | $157.00 |
| 40 AMP DC POWER OPTIONS: DC, POWER ARRANGEMENTS & TRANSMISSION ARRANGEMENT | $467.14 | 1 | $467.14 | 100.00% | $467.14 | $467.14 |
| CONDUIT SPACE /FT. | $0.15 | 75 | $11.25 | 49.40% | $0.16 | $12.00 |
| INTERCONNECTION CROSS-CONNECT | $4.64 | 100 | $464.00 | 67.80% | $4.90 | $490.00 |
| **TOTAL RECURRING** | | | **$1,099.39** | | | $1,126.14 |
| **TOTAL MONTHLY COST** | | | **$2,450.25** | | | $2,477.00 |
| **MONTHLY COST / DS1** | | | **$24.50** | | | $24.77 |

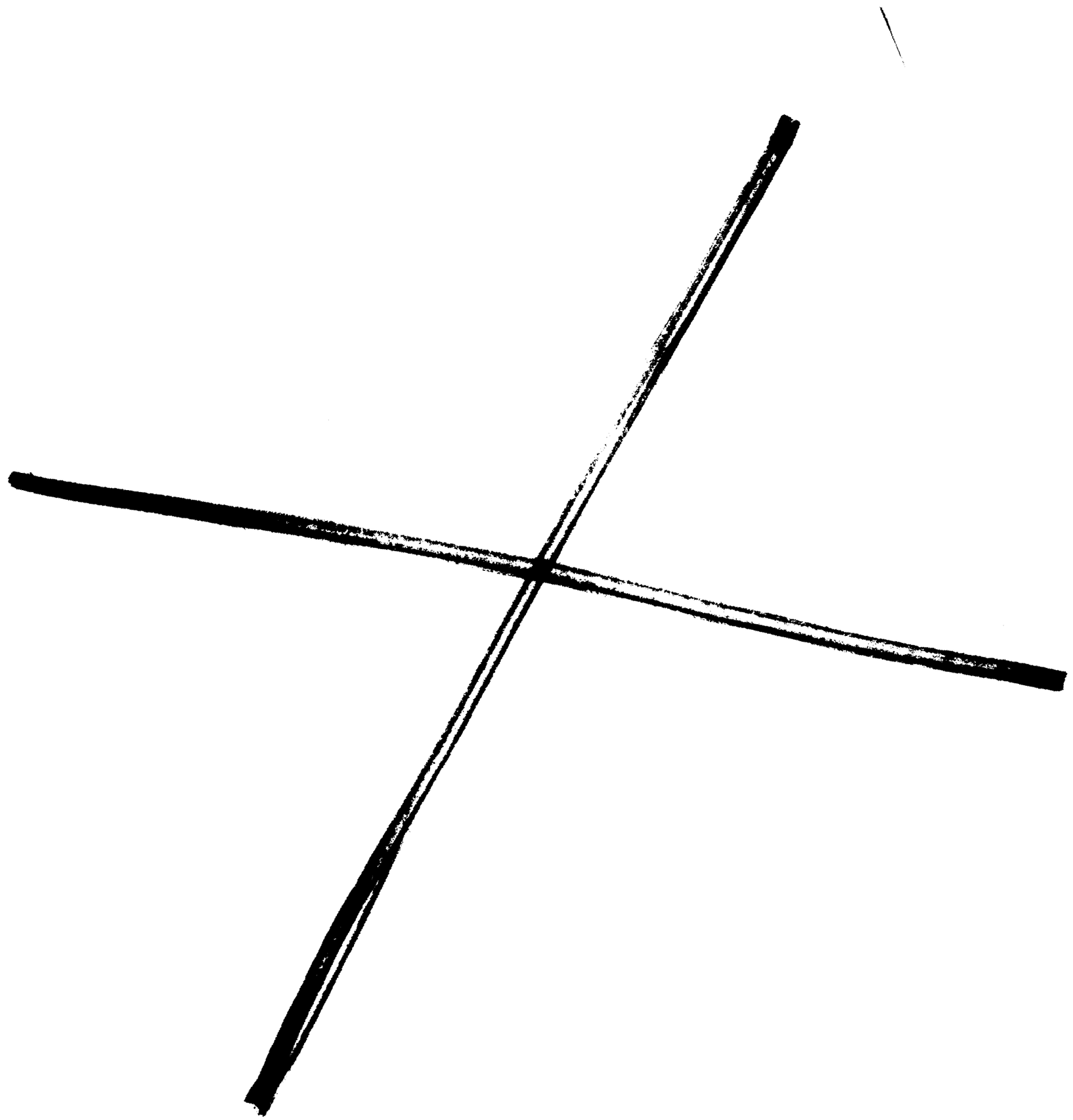
* INCLUDES TAC, CAGE, HOUSE ELECTRIC, POT POWER ARRANGEMENT, TRANSMISSION ARRANGEMENT, EDC AND CABLE PULL.

** RAF'D RATES ARE NOT RELEVANT BECAUSE THE GSF REALLOCATION REDUCTION RATES WERE DEVELOPED UTILIZING THE RAF'D RATES.

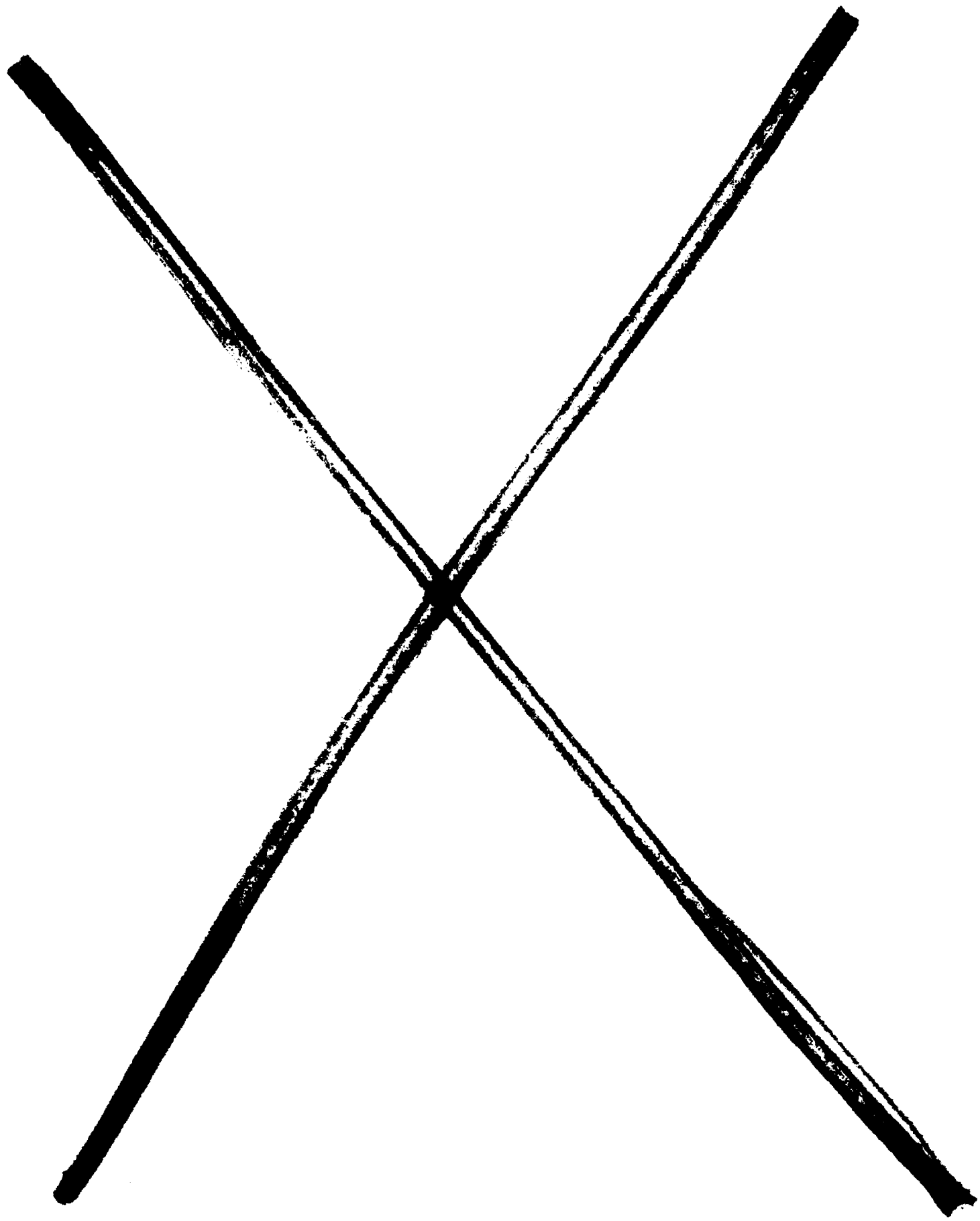
**SWBT PRICE OUT ASSUMPTIONS:**

1) APPLIED TEXAS FLOOR SPACE RATE
   A) MID-RANGE RATE FOR SWBT 5 STATES
   B) MAJORITY OF INTERCONNECTOR PROVIDED FORECASTS SUBMITTED IN RESPONSE TO THE 12/18/92 COLLOCATION ORDER WERE FOR TEXAS
2) UTILIZED 75 FT. FOR CONDUIT SPACE
3) UTILIZED 4 HRS FOR CABLE PULL
4) UTILIZED POWER OPTIONS OF 40 AMPs
5) POT FRAME PROVIDED BY INTERCONNECTOR
6) INTERCONNECTION ARRANGEMENT PROVIDED BY INTERCONNECTOR
7) EXCEPT FOR POT POWER AND DC TRANSMISSION POWER, RATES INDICATE GSF REALLOCATION REDUCTION
8) TAC REPRESENTS MODIFICATIONS TO A MEDIUM SIZE BUILDING FORECASTED BY TWO INTERCONNECTORS INCLUDES AN ENCODED CARD READER

Appendix 5



| | | | colocation 1.1 | | | | |
|---|---|---|---|---|---|---|---|
| State/City | | Square Feet | Revised cost | Commmercial office building 2-4 story range from $33.25 to $91.90 per s.f. (AVG. $62.58 per S.F) | | | |
| ARKANSAS | | | | | | | |
| Little Rock | | 9.02 | 15.51 | Telephone Ex. range from $43.35 to $172.50 per S. F. (AVG. $107.90) (The multiplier is the average of the Telephone EX. divided by the 2-4 story bldg .) 107.90/62.58 = 1.72 | | | |
| Total | | 9.02 | 15.51 | | | | |
| Average for State | | 9.02 | 15.51 | | | | |
| KANSAS | | | | | | | |
| Topeka (N/A) | | | | The average cost per square foot by city was multiplied by 1.72 to achieve the revised average cost per square foot . | | | |
| Wichita | | 10.86 | 18.68 | | | | |
| Kansas City, MO/KS | | 11.44 | 19.68 | The state average was also multiplied by 1.72 to achieve the revised average state cost per s.f. | | | |
| Total | | 22.3 | 38.36 | | | | |
| Average for State | | 11.15 | 19.18 | | | | |
| MISSOURI | | | | | | | |
| St.Louis | | 12.65 | 21.76 | | | | |
| Kansas City, MO/KS | | 11.44 | 19.68 | | | | |
| Total | | 24.09 | 41.43 | | | | |
| Average for State | | 12.05 | 20.72 | | | | |
| OKLAHOMA | | | | | | | |
| Oklahoma City | | 8.12 | 13.97 | | | | |
| Tulsa | | 11.09 | 19.07 | | | | |
| Total | | 19.21 | 33.04 | | | | |
| Average for state | | 9.61 | 16.52 | | | | |
| TEXAS | | | | | | | |
| Dallas | | 15.91 | 27.37 | | | | |
| Houston | | 12.87 | 22.14 | | | | |
| San Antonio | | 9.12 | 15.69 | | | | |
| Austin | | 10.14 | 17.44 | | | | |
| Corpus Christi | | 7.85 | 13.50 | | | | |
| Fort Worth | | 13.6 | 23.39 | | | | |
| Midland | | 7.07 | 12.16 | | | | |
| Total | | 76.56 | 131.68 | | | | |
| State Average | | 10.94 | 18.81 | | | | |



Appendix 7

# MEANS SQUARE FOOT COSTS

Residential
Commercial
Industrial
Institutional

## 1991

12th Annual Edition

## GENERAL

The Commercial/Industrial/Institutional section of this manual contains base building costs per square foot of floor area for 70 model buildings. Each model has a table of square foot costs for combinations of exterior wall and framing systems. This table is supplemented by a list of common additives and their unit costs. A breakdown of the component costs used to develop the base cost for the model is on the opposite page. The total cost derived from the base cost and additives must be modified using the appropriate location factor from the appendix.

This section may be used directly to estimate the construction cost of most types of buildings knowing only the floor area, exterior wall construction and framing system. To adjust the base cost for components which are different than the model, use the Unit-In-Place tables from Section 3.

## BUILDING IDENTIFICATION & MODEL SELECTION

The building models in this section represent structures by use. Occupancy, however, does not necessarily identify the building, i.e. a restaurant could be a converted warehouse. In all instances, the building should be described and identified by its own physical characteristics. The model selection should also be guided by comparing specifications with the model. In the case of converted use, data from one model may be used to supplement data from another.

## ADJUSTMENTS

The base cost tables represent the base cost per square foot of floor area for buildings without a basement and without unusual special features. Basement costs and other common additives are listed below the base cost table. Cost adjustments can also be made to the model by using the Unit-In-Place tables in Section 3. This table is for example only.

## DIMENSIONS

All base cost tables are developed so that measurement can be readily made during the inspection process. Areas are calculated from exterior dimensions and story heights are measured from the top surface of one floor to the top surface of the floor above. Roof areas are measured by horizontal area covered and costs related to inclines are converted with appropriate factors. The precision of measurement is a matter of the users choice and discretion. For ease in calculation, consideration should be given to measuring in tenths of a foot, i.e. 9 ft. 6 in. = 9.5 ft., 9 ft. 4 in. = 9.3 ft.

## FLOOR AREA

The expression "Floor Area" as used in this section includes the sum of floor areas at grade level and above. Basement costs are calculated separately. The user must exercise his own judgement, where the lowest level floor is slightly below grade, whether to consider it at grade level or make the basement adjustment.



## BASE COST TABLE

Bold face relates to breakdown of specification costs on facing page.

Base perimeters used to compute base costs.

Sum of floor areas at grade level and above.

**COSTS PER SQUARE FOOT OF FLOOR AREA**

| EXTERIOR WALL | | S.F. Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L.F. Perimeter | 380 | 400 | 433 | 466 | 500 | 566 | 586 | 600 | 634 |
| Face Brick with Concrete Block Back-up | | Steel Frame | 67.80 | 67.30 | 66.80 | 66.45 | 66.15 | 65.65 | 63.25 | 62.95 | 62.60 |
| | | R/Conc. Frame | 70.25 | 69.75 | 69.25 | 68.80 | 68.50 | 68.05 | 67.60 | 67.10 | 66.75 |
| Decorative Concrete Block | | Steel Frame | 63.50 | 63.05 | 62.65 | 62.35 | 62.10 | 61.65 | 59.80 | 59.50 | 59.25 |
| | | R/Conc. Frame | 65.30 | 64.85 | 64.45 | 64.15 | 63.90 | 63.45 | 61.56 | 61.25 | 60.95 |
| Precast Concrete Panels | | Steel Frame | 66.25 | 65.75 | 65.25 | 64.90 | 64.60 | 64.10 | 61.70 | 61.35 | 61.05 |
| | | R/Conc. Frame | 67.95 | 67.40 | 66.95 | 66.56 | 66.25 | 65.75 | 63.30 | 63.00 | 62.65 |
| Perimeter Adj. Add or Deduct | | Per 100 L.F. | 3.10 | 2.80 | 2.50 | 2.30 | 2.10 | 1.80 | 1.60 | 1.35 | 1.30 |
| Story Hgt. Adj. Add or Deduct | | Per 1 Ft. | 1.05 | 1.00 | 1.05 | .95 | .95 | .95 | .75 | .70 | .70 |
| FOR BASEMENT, add $16.85 per square foot of basement area | | | | | | | | | | | |

Adjustment for perimeter variation from base perimeter.

Adjustment for story height variation from specifications (See facing page)

Exterior wall construction

Type of Framing

Cost per square foot of floor area for a 70,000 square foot building with precast concrete exterior wall, steel frame, 566 L.F. of wall perimeter and 10 ft. story height.

For combinations of different construction and areas, use the nearest most applicable cost, or adjust through averaging and/or interpolation.

# COSTS AND SPECIFICATIONS

Cost per square foot from Unit-In-Place section

## COMMERCIAL/INDUSTRIAL INSTITUTIONAL — 2.020 Apartment, 4-7 Story

**Model costs calculated for a 6 story building with 10'-4" story height and 60,000 square feet of floor area**

| NO. | SYSTEM/COMPONENT | SPECIFICATIONS | UNIT | UNIT COST | COST PER S.F. |
|---|---|---|---|---|---|
| 1.0 | FOUNDATIONS | | | | |
| 2 | Footings & Foundations | Poured concrete; strip and spread footings and 4' foundation wall | S.F. Ground | 6.06 | 1.01 |
| 4 | Piles & Caissons | N/A | — | — | — |
| 9 | Excavation & Backfill | Site preparation for slab and trench for foundation wall and footing | S.F. Ground | .71 | .12 |
| 2.0 | SUBSTRUCTURE | | | | |
| 2 | Slab on Grade | 4" reinforced concrete with vapor barrier and granular base | S.F. Slab | 2.64 | .44 |
| 3 | Special Substructures | N/A | — | — | — |
| 3.0 | SUPERSTRUCTURE | | | | |
| 1 | Columns & Beams | Gypsum board fireproofing on columns, steel columns in 3.5 and 3.7 | S.F. Floor | 1.35 | 1.35 |
| 2 | Structural Walls | N/A | — | — | — |
| 5 | Elevated Floors | Open web steel joists, slab form, concrete, steel columns | S.F. Floor | 9.57 | 7.98 |
| 7 | Roof | Open web steel joists with no metal deck, steel columns | S.F. Roof | 4.19 | .70 |
| 9 | Stairs | Concrete filled metal pan | Flight | 3620 | 97 |
| 4.0 | EXTERIOR CLOSURE | | | | |
| 1 | Walls | Face brick with concrete block backup — 86% of wall | S.F. Wall | 12.57 | 5.41 |
| 5 | Exterior Wall Finishes | N/A | — | — | — |
| 6 | Doors | Aluminum and glass | Each | 2815 | .79 |
| 7 | Windows & Glazed Walls | Aluminum horizontal sliding — 14% of wall | Each | 202 | .94 |
| 5.0 | ROOFING | | | | |
| 1 | Roof Coverings | Built-up tar and gravel with flashing | S.F. Roof | 1.92 | .32 |
| 7 | Insulation | Perlite/urethane composite | S.F. Roof | 1.62 | .27 |
| 8 | Openings & Specialties | N/A | — | — | — |
| 6.0 | INTERIOR CONSTRUCTION | | | | |
| 1 | Partitions | Gypsum board and sound deadening board on metal studs — 8 S.F. Floor/L.F. Partitions | L.F. Partition | 3.18 | 3.18 |
| 4 | Interior Doors | 15% sand core wood, 85% hollow core wood — 80 S.F. Floor/Door | Each | 3.35 | 4.17 |
| 5 | Wall Finishes | 70% paint, 25% vinyl wall covering, 5% ceramic tile | S.F. Surface | .85 | 1.83 |
| 6 | Floor Finishes | 60% carpet, 30% vinyl composition tile, 10% ceramic tile | S.F. Floor | 3.18 | 3.18 |
| 7 | Ceiling Finishes | Painted gypsum board on resilient channels | S.F. Ceiling | 2.18 | 2.18 |
| 9 | Interior Surface/Exterior Wall | Painted gypsum board on furring — 30% of wall | S.F. Wall | 2.42 | .73 |
| 7.0 | CONVEYING | | | | |
| 1 | Elevators | Two passenger elevators | Each | 90,400 | 1.31 |
| 2 | Special Conveyors | N/A | — | — | — |
| 8.0 | MECHANICAL | | | | |
| 1 | Plumbing | Kitchen, bathroom and service fixtures, supply and drainage — 1 Fixture/215 S.F. Floor | Each | 1.380 | 6.42 |
| 2 | Fire Protection | Standpipe and hose systems | S.F. Floor | .20 | .20 |
| 3 | Heating | Oil fired hot water, baseboard radiation | S.F. Floor | 3.35 | 3.35 |
| 4 | Cooling | N/A | — | — | — |
| 5 | Special Systems | N/A | — | — | — |
| 9.0 | ELECTRICAL | | | | |
| 1 | Service & Distribution | 1000 ampere service, panel board and feeders | S.F. Floor | .69 | .69 |
| 2 | Lighting & Power | Incandescent fixtures, receptacles, switches and misc. power | S.F. Floor | 3.04 | 3.04 |
| 4 | Special Electrical | Alarm systems, emergency lighting, and intercom | S.F. Floor | .28 | .28 |
| 11.0 | SPECIAL CONSTRUCTION | | | | |
| 1 | Specialties | Kitchen cabinets | S.F. Floor | 1.25 | 1.25 |
| 12.0 | SITEWORK | | | | |
| 1 | Earthwork | N/A | — | — | — |
| 3 | Utilities | N/A | — | — | — |
| 5 | Roads & Parking | N/A | — | — | — |
| 7 | Site Improvements | N/A | — | — | — |
| | | SUB-TOTAL | | | 53.75 |
| | GENERAL CONDITIONS (Overhead and Profit) | | | 15% | 8.06 |
| | ARCHITECT FEES | | | 7% | 4.34 |
| | | TOTAL BUILDING COST | | | 66.15 |

75

Cost per square foot of building floor area

Cost per square foot from Unit-In-Place section

Number of square feet of floor area for each lineal foot of partition

Number of square feet of floor for every interior door

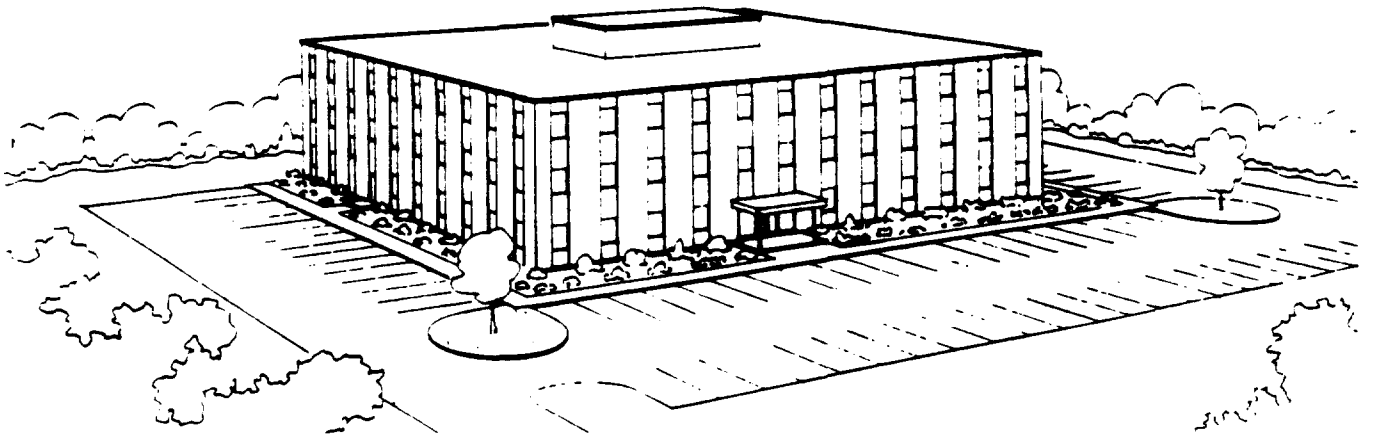
Total of above costs per square foot of floor area

Total building cost per square foot of floor area including general conditions, contractor's overhead & profit and architect's fees

See page 388

See page 388

# 2.460 Office, 2-4 Story



## COSTS PER SQUARE FOOT OF FLOOR AREA

| EXTERIOR WALL | S.F. Area | 10000 | 22000 | 34000 | 46000 | 58000 | 63000 | 68000 | 73000 | 78000 |
|---|---|---|---|---|---|---|---|---|---|---|
| | *L.F. Perimeter* | *246* | *393* | *443* | *543* | *562* | *590* | *603* | *624* | *645* |
| Face Brick with Concrete Block Back-up | Wood Joists | 74.05 | 63.40 | 57.70 | 55.90 | 53.65 | 53.20 | 52.70 | 52.30 | 52.00 |
| | Steel Joists | 78.65 | 68.00 | 62.30 | 60.50 | 58.25 | 57.85 | 57.30 | 56.90 | 56.60 |
| Glass and Metal Curtain Wall | Steel Frame | 79.70 | 69.20 | 63.65 | 61.85 | 59.70 | 59.25 | 58.75 | 58.35 | 58.05 |
| | R/Conc. Frame | 81.60 | 71.10 | 65.55 | 63.80 | 61.60 | 61.15 | 60.65 | 60.25 | 59.95 |
| Wood Siding | Wood Frame | 66.45 | 57.90 | 53.65 | 52.25 | 50.70 | 50.35 | 49.95 | 49.65 | 49.45 |
| Brick Veneer | Wood Frame | 70.80 | 61.00 | 55.95 | 54.30 | 52.40 | 52.00 | 51.50 | 51.15 | 50.90 |
| Perimeter Adj. Add or Deduct | Per 100 L.F | 9.05 | 4.05 | 2.60 | 1.95 | 1.55 | 1.45 | 1.30 | 1.20 | 1.15 |
| Story Hgt. Adj. Add or Deduct | Per 1 Ft | 1.65 | 1.15 | .85 | .80 | .65 | .65 | .55 | .55 | .55 |
| FOR BASEMENT, add $16.45 per square foot of basement area | | | | | | | | | | |

*The above costs were calculated using the basic specifications shown on the facing page. These costs should be adjusted where necessary for design alternatives and owner's requirements. Reported completed project costs, for this type of structure, range from $33.25 to $91.90 per S.F.*

## COMMON ADDITIVES

| Description | Unit | Cost |
|---|---|---|
| CLOCK SYSTEM | | |
| 20 Room | Each | $9450 |
| 50 Room | Each | 22,900 |
| CLOSED CIRCUIT SURVEILLANCE, One station | | |
| Camera and monitor | Each | 1050 |
| For additional camera stations, add | Each | 560 |
| DIRECTORY BOARDS, Plastic, glass covered | | |
| 30" x 20" | Each | 465 |
| 36" x 48" | Each | 865 |
| Aluminum, 24" x 18" | Each | 425 |
| 39" x 22" | Each | 540 |
| 48" x 32" | Each | 610 |
| 48" x 60" | Each | 1350 |
| ELEVATORS, Hydraulic passenger, 2 stops | | |
| 1500# capacity | Each | 41,200 |
| 2500# capacity | Each | 45,500 |
| 3500# capacity | Each | 47,400 |
| Additional stop, add | Each | 6,900 |
| EMERGENCY LIGHTING, 25 watt battery operated | | |
| Lead battery | Each | 320 |
| Nickel cadmium | Each | 485 |

| Description | Unit | Cost |
|---|---|---|
| SMOKE DETECTORS | | |
| Ceiling type | Each | $ 100 |
| Duct type | Each | 310 |
| SOUND SYSTEM | | |
| Amplifier, 250 watts | Each | 1150 |
| Speaker, office | Each | 99 |
| Industrial | Each | 190 |
| TV ANTENNA, Master system, 12 outlet | Outlet | 180 |
| 30 Outlet | Outlet | 115 |
| 100 Outlet | Outlet | 110 |

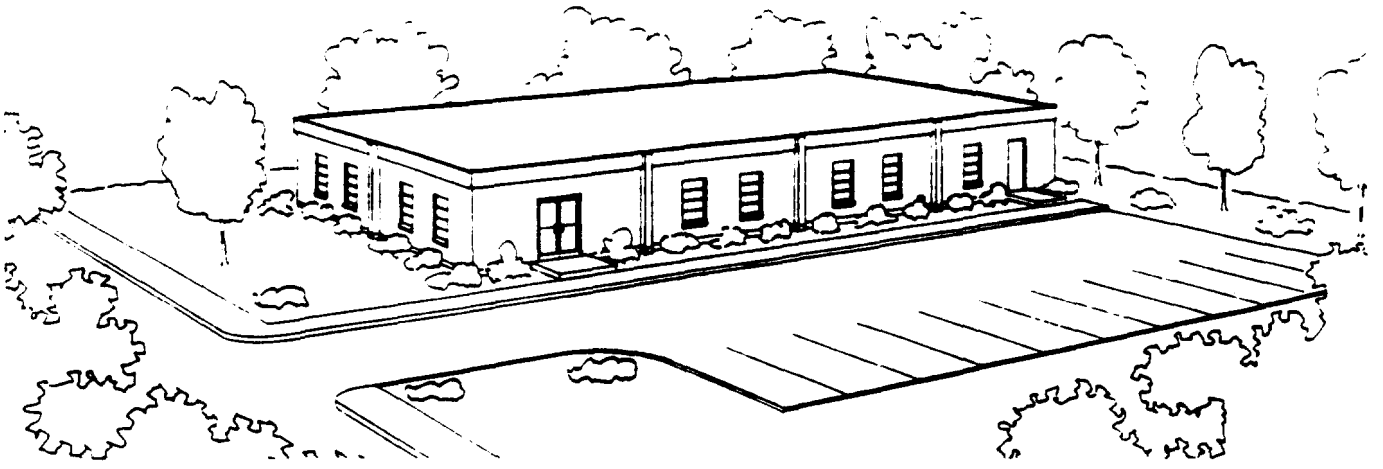
Use LOCATION FACTORS on pages 389 to 393

# 2.460 Office, 2-4 Story

**Model costs calculated for a 3 story building with 12 foot story height and 58,000 square feet of floor area**

| NO. | SYSTEM/COMPONENT | SPECIFICATIONS | | UNIT | UNIT COST | COST PER S.F. |
|---|---|---|---|---|---|---|
| **1.0 FOUNDATIONS** | | | | | | |
| 1 | Footings & Foundations | Poured concrete; strip and spread footings and 4' foundation wall | | S.F. Ground | 3.03 | 1.01 |
| 4 | Piles & Caissons | N/A | | — | — | — |
| 9 | Excavation & Backfill | Site preparation for slab and trench for foundation wall and footing | | S.F. Ground | .75 | .25 |
| **2.0 SUBSTRUCTURE** | | | | | | |
| 1 | Slab on Grade | 4" reinforced concrete with vapor barrier and granular base | | S.F. Slab | 2.64 | .88 |
| 2 | Special Substructures | N/A | | — | — | — |
| **3.0 SUPERSTRUCTURE** | | | | | | |
| 1 | Columns & Beams | Fireproofing; interior columns included in 3.5 and 3.7 | | L.F. Floor | 18.59 | .50 |
| 4 | Structural Walls | N/A | | — | — | |
| 5 | Elevated Floors | Open web steel joists, slab form, concrete, columns | | S.F. Floor | 6.39 | 4.26 |
| 7 | Roof | Metal deck, open web steel joists, columns | | S.F. Roof | 3.11 | 1.04 |
| 9 | Stairs | Concrete filled metal pan | | Flight | 4390 | .53 |
| **4.0 EXTERIOR CLOSURE** | | | | | | |
| 1 | Walls | Face brick with concrete block backup | 80% of wall | S.F. Wall | 16.35 | 4.56 |
| 5 | Exterior Wall Finishes | N/A | | — | — | — |
| 6 | Doors | Aluminum and glass, hollow metal | | Each | 2030 | .21 |
| 7 | Windows & Glazed Walls | Steel outward projecting | 20% of wall | Each | 355 | 1.08 |
| **5.0 ROOFING** | | | | | | |
| 1 | Roof Coverings | Built-up tar and gravel with flashing | | S.F. Roof | 1.65 | .55 |
| 7 | Insulation | Perlite/urethane composite | | S.F. Roof | 1.26 | .42 |
| 8 | Openings & Specialties | N/A | | — | — | — |
| **6.0 INTERIOR CONSTRUCTION** | | | | | | |
| 1 | Partitions | Gypsum board on metal studs, toilet partitions | 20 S.F. Floor/L.F. Partition | S.F. Partition | 2.69 | 1.33 |
| 4 | Interior Doors | Single leaf hollow metal | 200 S.F. Floor/Door | Each | 485 | 2.43 |
| 5 | Wall Finishes | 60% vinyl wall covering, 40% paint | | S.F. Surface | .96 | .77 |
| 6 | Floor Finishes | 60% carpet, 30% vinyl composition tile, 10% ceramic tile | | S.F. Floor | 4.28 | 4.28 |
| 7 | Ceiling Finishes | Mineral fiber tile on concealed zee bars | | S.F. Ceiling | 3.93 | 3.93 |
| 9 | Interior Surface/Exterior Wall | Painted gypsum board on furring | 80% of wall | S.F. Wall | 2.42 | .68 |
| **7.0 CONVEYING** | | | | | | |
| 1 | Elevators | Two passenger elevators | | Each | 45,500 | 2.04 |
| 2 | Special Conveyors | N/A | | — | — | — |
| **8.0 MECHANICAL** | | | | | | |
| 1 | Plumbing | Toilet and service fixtures, supply and drainage | 1 Fixture/1320 S.F. Floor | Each | 1571 | 1.19 |
| 2 | Fire Protection | Standpipes and hose systems | | S.F. Floor | .15 | .15 |
| 3 | Heating | Included in 8.4 | | — | — | — |
| 4 | Cooling | Multizone unit gas heating, electric cooling | | S.F. Floor | 8.50 | 8.50 |
| 5 | Special Systems | N/A | | — | — | — |
| **9.0 ELECTRICAL** | | | | | | |
| 1 | Service & Distribution | 1000 ampere service, panel board and feeders | | S.F. Floor | .73 | .73 |
| 2 | Lighting & Power | Fluorescent fixtures, receptacles, switches and misc. power | | S.F. Floor | 5.88 | 5.88 |
| 4 | Special Electrical | Alarm systems and emergency lighting | | S.F. Floor | .16 | .16 |
| **11.0 SPECIAL CONSTRUCTION** | | | | | | |
| 1 | Specialties | N/A | | — | — | — |
| **12.0 SITEWORK** | | | | | | |
| .1 | Earthwork | N/A | | — | — | — |
| .3 | Utilities | N/A | | — | — | — |
| .5 | Roads & Parking | N/A | | — | — | — |
| .7 | Site Improvements | N/A | | — | — | — |
| | | | **SUB-TOTAL** | | | 47.36 |
| | **GENERAL CONDITIONS (Overhead and Profit)** | | | | 15% | 7.10 |
| | **ARCHITECT FEES** | | | | 7% | 3.79 |
| | | | | | | |
| | | | | **TOTAL BUILDING COST** | | 58.25 |

# 2.660 Telephone Exchange



## COSTS PER SQUARE FOOT OF FLOOR AREA

| EXTERIOR WALL | S.F. Area | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 | 10000 |
|---|---|---|---|---|---|---|---|---|---|---|
| | *L.F. Perimeter* | *180* | *220* | *260* | *286* | *320* | *353* | *368* | *397* | *425* |
| Face Brick with Concrete Block Back-up | Steel Frame | 93.25 | 83.40 | 78.45 | 74.20 | 72.00 | 70.35 | 68.15 | 67.10 | 66.20 |
| | Bearing Walls | 92.00 | 82.15 | 77.15 | 72.95 | 70.75 | 69.10 | 66.85 | 65.85 | 64.90 |
| Limestone with Concrete Block Back-Up | Steel Frame | 108.85 | 96.15 | 89.70 | 84.15 | 81.25 | 79.10 | 76.10 | 74.75 | 73.55 |
| | Bearing Walls | 107.60 | 94.85 | 88.45 | 82.85 | 80.00 | 77.85 | 74.85 | 73.50 | 72.30 |
| Decorative Concrete Block | Steel Frame | 86.95 | 78.25 | 73.85 | 70.20 | 68.25 | 66.85 | 64.90 | 64.00 | 63.20 |
| | Bearing Walls | 85.70 | 77.00 | 72.60 | 68.95 | 67.00 | 65.60 | 63.65 | 62.75 | 61.95 |
| Perimeter Adj. Add or Deduct | Per 100 L.F. | 22.40 | 14.95 | 11.20 | 9.00 | 7.50 | 6.40 | 5.55 | 4.95 | 4.45 |
| Story Hgt. Adj. Add or Deduct | Per 1 Ft. | 2.55 | 2.10 | 1.85 | 1.65 | 1.55 | 1.45 | 1.30 | 1.25 | 1.20 |
| FOR BASEMENT, add $17.20 per square foot of basement area | | | | | | | | | | |

*The above costs were calculated using the basic specifications shown on the facing page. These costs should be adjusted where necessary for design alternatives and owner's requirements. Reported completed project costs, for this type of structure, range from $43.35 to $172.50 per S.F.*

## COMMON ADDITIVES

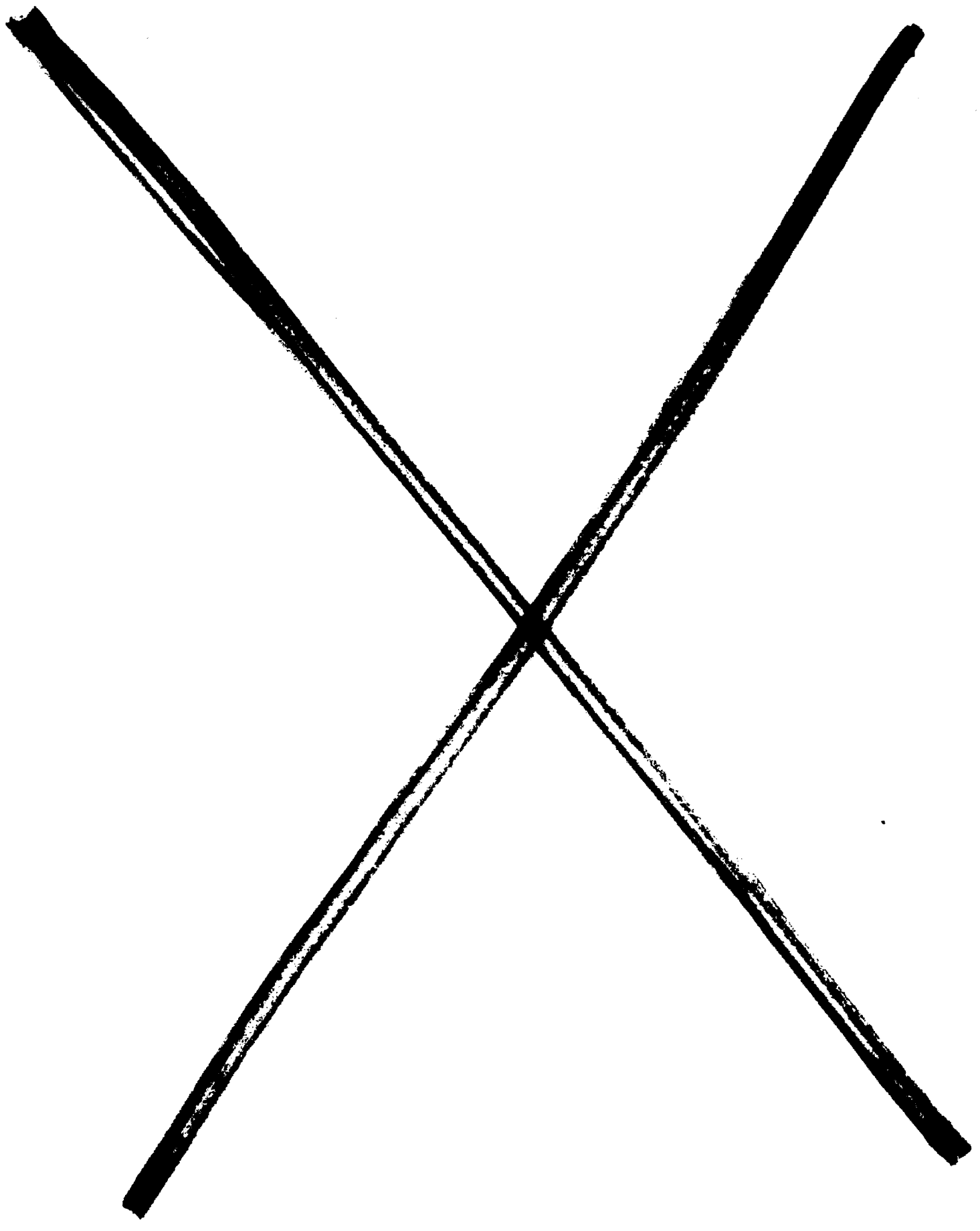
| Description | Unit | Cost |
|---|---|---|
| EMERGENCY LIGHTING, 25 watt battery operated | | |
| Lead battery | Each | $320 |
| Nickel cadmium | Each | 485 |
| SMOKE DETECTORS | | |
| Ceiling type | Each | 100 |
| Duct type | Each | 310 |
| EMERGENCY GENERATORS, complete system, gas | | |
| 15 kw | Each | 11,100 |
| 85 kw | Each | 29,600 |
| 170 kw | Each | 88,500 |
| Diesel, 50 kw | Each | 20,500 |
| 150 kw | Each | 36,300 |
| 350 kw | Each | 54,500 |

Use LOCATION FACTORS on pages 389 to 393

# 2.660 Telephone Exchange

**Model costs calculated for a 1 story building with 12 foot story height and 5,000 square feet of floor area**

| NO. | SYSTEM/COMPONENT | SPECIFICATIONS | | UNIT | UNIT COST | COST PER S.F. |
|---|---|---|---|---|---|---|
| **1.0** | **FOUNDATIONS** | | | | | |
| 1 | Footings & Foundations | Poured concrete; strip and spread footings and 4' foundation wall | | S.F. Ground | 4.07 | 4.07 |
| 4 | Piles & Caissons | N/A | | — | — | — |
| 9 | Excavation & Backfill | Site preparation for slab and trench for foundation wall and footing | | S.F. Ground | .93 | .93 |
| **2.0** | **SUBSTRUCTURE** | | | | | |
| 1 | Slab on Grade | 4" reinforced concrete with vapor barrier and granular base | | S.F. Slab | 2.64 | 2.64 |
| 2 | Special Substructures | N/A | | — | — | — |
| **3.0** | **SUPERSTRUCTURE** | | | | | |
| 1 | Columns & Beams | Steel columns included in 3.7 | | — | — | — |
| 4 | Structural Walls | N/A | | — | — | — |
| 5 | Elevated Floors | N/A | | — | — | — |
| 7 | Roof | Metal deck, open web steel joists, beams, columns | | S.F. Roof | 3.88 | 3.88 |
| 9 | Stairs | N/A | | — | — | — |
| **4.0** | **EXTERIOR CLOSURE** | | | | | |
| 1 | Walls | Face brick with concrete block backup | 80% of wall | S.F. Wall | 16.35 | 8.98 |
| 5 | Exterior Wall Finishes | N/A | | — | — | — |
| 6 | Doors | Single aluminum glass with transom | | Each | 2150 | .96 |
| 7 | Windows & Glazed Walls | Outward projecting steel | 20% of wall | Each | 835 | 5.73 |
| **5.0** | **ROOFING** | | | | | |
| 1 | Roof Coverings | Built-up tar and gravel with flashing | | S.F. Roof | 1.89 | 1.89 |
| 7 | Insulation | Perlite/urethane composite | | S.F. Roof | 1.25 | 1.25 |
| 8 | Openings & Specialties | Gravel stop and hatches | | S.F. Roof | .27 | .27 |
| **6.0** | **INTERIOR CONSTRUCTION** | | | | | |
| 1 | Partitions | Double layer gypsum board on metal studs, toilet partitions | 15 S.F. Floor/L.F. Partition | S.F. Partition | 4.35 | 3.09 |
| 4 | Interior Doors | Single leaf hollow metal | 150 S.F. Floor/Door | Each | 485 | 3.23 |
| 5 | Wall Finishes | Paint | | S.F. Surface | .41 | .55 |
| 6 | Floor Finishes | 90% carpet, 10% terrazzo | | S.F. Floor | 5.00 | 5.00 |
| 7 | Ceiling Finishes | Fiberglass board on exposed grid system, suspended | | S.F. Ceiling | 1.70 | 1.70 |
| 9 | Interior Surface/Exterior Wall | Paint | 80% of wall | S.F. Floor | 1.08 | .59 |
| **7.0** | **CONVEYING** | | | | | |
| 1 | Elevators | N/A | | — | — | — |
| 2 | Special Conveyors | N/A | | — | — | — |
| **8.0** | **MECHANICAL** | | | | | |
| 1 | Plumbing | Kitchen, toilet and service fixtures, supply and drainage | 1 Fixture/715 S.F. Floor | Each | 2230 | 3.12 |
| 2 | Fire Protection | N/A | | — | — | — |
| 3 | Heating | Included in 8.4 | | — | — | — |
| 4 | Cooling | Single zone unit, gas heating, electric cooling | | S.F. Floor | 5.62 | 5.62 |
| 5 | Special Systems | N/A | | — | — | — |
| **9.0** | **ELECTRICAL** | | | | | |
| 1 | Service & Distribution | 200 ampere service, panel board and feeders | | S.F. Floor | .84 | .84 |
| 2 | Lighting & Power | Fluorescent fixtures, receptacles, switches and misc. power | | S.F. Floor | 3.07 | 3.07 |
| 4 | Special Electrical | Alarm systems and emergency lighting | | S.F. Floor | .82 | .82 |
| **11.0** | **SPECIAL CONSTRUCTION** | | | | | |
| 1 | Specialties | N/A | | — | — | — |
| **12.0** | **SITEWORK** | | | | | |
| 1 | Earthwork | N/A | | — | — | — |
| 3 | Utilities | N/A | | — | — | — |
| 5 | Roads & Parking | N/A | | — | — | — |
| 7 | Site Improvements | N/A | | — | — | — |
| | | | **SUB-TOTAL** | | | 58.13 |
| | **GENERAL CONDITIONS (Overhead and Profit)** | | | | 15% | 8.72 |
| | **ARCHITECT FEES** | | | | 11% | 7.35 |
| | | | | | | |
| | | | | **TOTAL BUILDING COST** | | 74.20 |



# 1992 BOMA EXPERIENCE EXCHANGE REPORT

**Operating a Cost Effective Office Building**

Your Guide to Income and Expense Data


**Building Owners and Managers Association International**

# A User's Guide

The *BOMA Experience Exchange Report* provides published tables of operating income and expense data for office buildings throughout North America. The data is based on a voluntary survey of over 4,700 office building owners and managers whose buildings represent a wide varied selection of office space. Building owners and managers receive the survey forms (Appendix A contains a sample form) in January of each year and return the forms to BOMA International by March 16th. BOMA International reviews the forms and compiles the data statistically into tables during April and May; publication and distribution of the book occurs in June.

### Data Compilation

A completed *Experience Exchange Report* survey form contains information about a building's yearly operating costs and rental income, as well as data on the building's use and operating characteristics. The income and expense data is categorized according to the functional accounting categories outlined in the BOMA Functional Accounting Guide. Respondents are encouraged to measure and report space to the *BOMA/ANSI Standard Method for Measuring Floor Area in Office Buildings.*

### How Data Contributors Benefit

Building owners and managers who complete the survey forms each year not only support one of the industry's leading tools for monitoring and analyzing building performance but also receive an Expense Performance Comparison analysis for each building they submit. The Expense Performance Comparison analysis compares a respondent's actual operating expenses with similar buildings in their area on a line-by-line basis.

### Organization of the *Experience Exchange Report*

The *Experience Exchange Report* contains four major sections of analyses: U.S. Private Sector, U.S. Government Sector, Canada Private Sector, and Canada Government Sector. Within each sector, the analyses are grouped according to Cities, Special Studies, and National Cross-Tabulations. The City analyses appear in alphabetical order, with up to 12 analyses for each city. For each city, depending on sample size, sub-analyses distinguish building performance according to location (downtown vs. suburban) and building size.

The National Cross-Tabulations grouping provides analyses sorted by building location, age, size, and height characteristics. Special Studies contain analyses on specific types of office buildings, including comparisons of buildings reporting each year, all-electric buildings, single purpose buildings, financial buildings and medical buildings.

With the exception of the National Occupancy/Location Analyses that disaggregate buildings by occupancy levels, all of the tables reflect buildings that satisfied the following criteria in 1991:

1. For the private sector, at least 70% of the building rentable space is allocated to office type occupants; for the public sector, the cutoff percentage is 50%.

2. The average occupancy level for the office space in 1991 was 50% or higher.

Thus, these tables reliably report income and expenses for properties that experienced traditionally prevalent operating conditions. The National Occupancy/Location tables report income and expenses for properties experiencing less than 50% occupancy (annual average), so that the input of lower occupancy levels on expenses can be examined.

**Caveat**

BOMA International has taken extreme care and exercised high standards of statistical procedures in processing and reporting data in this *Experience Exchange Report* and offers it as a useful service to the office building industry and the public. However, data is presented with no warranty, either expressed or implied, as to its accuracy; BOMA International assumes no legal responsibility for the accuracy of the statistical presentations, comments or other information contained herein. Neither does it assume any responsibility for the outcome of decisions, contracts, commitments, or obligations made on the basis of this information.

1

Tenant Occupancy Information

5

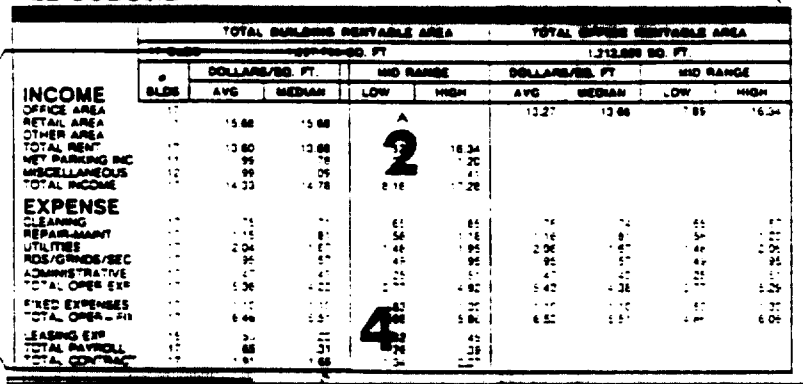
CITY ANALYSES 1991

U.S. PRIVATE SECTOR

Sample City

ALL SUBURBAN

Summary Section 3



2

4

Detail Section

6

Sample Analysis

# Explanation of the Analysis Format

The basic format of the analyses contained in the *BOMA Experience Exchange Report* consists of three sections. The top lefthand section provides income and expense Summary Data, the righthand provides Tenant/Occupancy information, and the bottom portion supplies Expense Detail Data.

**Summary Section**

This section provides summary totals for 7 income and 11 expense categories.

The left side of the upper Summary Section presents income and expense figures for the Total Building Rentable Area (Office – Retail – Other). The right side provides figures for Total Office Rentable Area only. Most survey respondents use the *BOMA/ANSI Standard Method for Measuring Floor Area in Office Buildings* to determine rentable area.

Under the Total Rentable Area headings are the number of buildings reporting in the analysis and the corresponding total building and total office square footage of those buildings.

1

| | TOTAL BUILDING RENTABLE AREA | TOTAL OFFICE RENTABLE AREA |
|---|---|---|
| # SIZE | [illegible] SQ. FT. | [illegible] SQ. FT. |

For all categories in the Summary Section, four types of data are provided: Average, Median, Mid-Range, and Number of Buildings.

2

| | DOLLARS/SQ. FT. | | MID RANGE | |
|---|---|---|---|---|
| SIZE | AVG | MEDIAN | LOW | HIGH |

The following set of fictitious data for 10 buildings demonstrates how these figures are calculated.

**Cleaning Costs** *(Theoretical)*

| Building # | Square Feet | $ | Expense |
|---|---|---|---|
| 1 | 134,000 | $ | 73,700 |
| 2 | 79,000 | $ | 53,720 |
| 3 | 280,000 | $ | 235,200 |
| 4 | 121,000 | $ | 110,110 |
| 5 | 590,000 | $ | 566,400 |
| 6 | 91,000 | $ | 92,820 |
| 7 | 1,222,000 | $ | 1,295,320 |
| 8 | 455,000 | $ | 495,950 |
| 9 | 260,000 | $ | 291,200 |
| 10 | 195,000 | $ | 243,750 |
| | 3,427,000 | $ | 3,458,170 |

The Average is calculated by adding all dollars, then all square footage, and dividing total dollars by total square footage.

$$\frac{\text{Total Dollars}}{\text{Total Sq. Ft.}} = \text{AVERAGE Dollars per Square Foot}$$

OR

$$\frac{\$3{,}458{,}170}{\$3{,}427{,}000} = \$1.009 \text{ per Square Foot}$$

| Building | | Square Feet | $ Expense | Average/Sq. Ft. | |
|---|---|---|---|---|---|
| 1 | | 134,000 | $ 73,700 | $ .55 | |
| 2 | | 79,000 | $ 53,720 | $ .68 | |
| 3 | | 280,000 | $ 235,200 | $ .84 | |
| 4 | | 121,000 | $ 110,110 | $ .91 | .96 |
| 5 | *MEDIAN* | 590,000 | $ 566,400 | $ .96 | 1.02 |
| 6 | *THE HALFWAY* | 91,000 | $ 92,820 | $1.02 | 1.98 ÷ 2 = .99 |
| 7 | *POINT OF THE* | 1,222,000 | $1,295,320 | $1.06 | |
| 8 | *NUMBER OF* | 455,000 | $ 495,950 | $1.09 | |
| 9 | *DATA ITEMS* | 260,000 | $ 291,200 | $1.12 | |
| 10 | | 195,000 | $ 243,750 | $1.25 | |

This method is a true average in that it measures the cost or income per square foot without reference to the number or size of buildings contributing data. Buildings with larger amounts of square feet will affect the average value more than smaller buildings. This effect is most noticeable in analyses with few buildings reporting, especially if the large buildings report unusual income or expense figures.

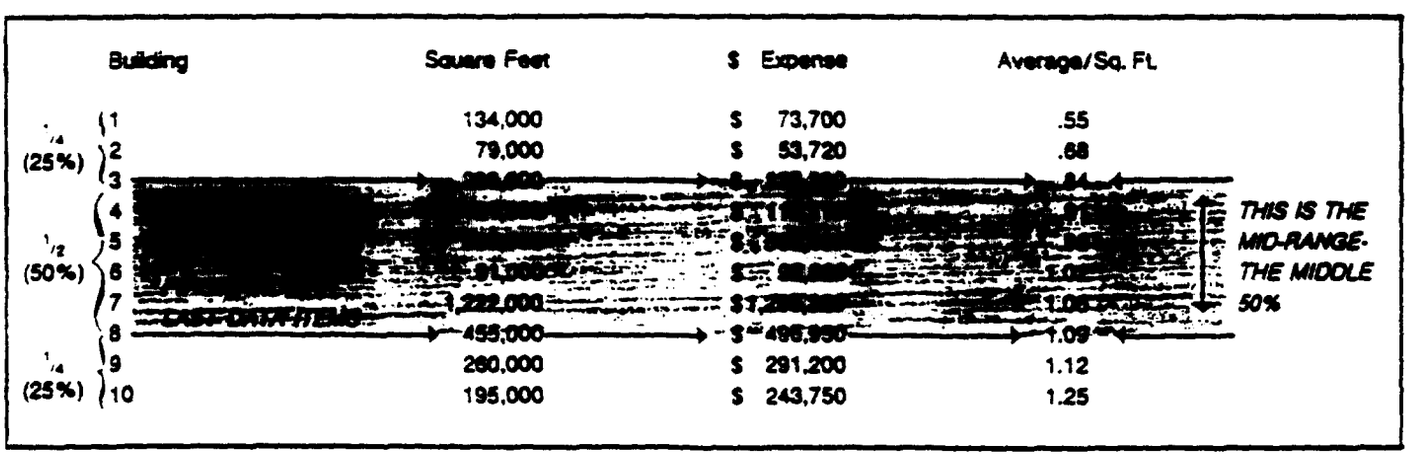
This is one reason the *Expenence Exchange Report* provides as many size group breakdowns as possible for each city, and includes medians and mid-ranges, to allow greater ability to judge the usefulness of each statistic.

The Median is a true measure of the midpoint of the data. To obtain a Median for the 10 sets of data in the following example, the dollars per square foot for each building are arrayed from the lowest value to the highest. Then the computer simply counts halfway through the data and finds the number that lies at the midpoint.

The Mid-Range is calculated by a formula that determines the upper and lower hinge values.

The Mid-Range is an indication of the middle 50% of the data; the Low Mid-Range figure is the number below which 25% of the data items lie, and the High Mid-Range figure is the number above which 25% of the data items lie. The result is a "bracket set" of figures that shows a range of 25% on either side of the center.

The Mid-Range shows the user the distribution of the data range. For data categories with three buildings or fewer, no Mid-Range will be shown.



If most building reports show similar amounts, the Mid-Range will be close to the Median:

| | | | |
|---|---|---|---|
| 1 | .65 | | |
| 2 | .74 | | |
| 3 | .78 | | |
| 4 | .81 | | |
| 5 | .84 | *Median* | *Mid* |
| 6 | .88 | *.86* | *Range* |
| 7 | .91 | | |
| 8 | .96 | | |
| 9 | 1.01 | | |
| 10 | 1.12 | | |

For this set the corresponding analysis would look like this:

| # | DOLLARS/SQ.FT. | | MID RANGE | |
|---|---|---|---|---|
| BLDS | AVG | MEDIAN | LOW | HIGH |
| 10 | | .86 | .78 | .96 |

However, if the reports show a great variance in data, then the Mid-Range will show a wide spread:

| | | |
|---|---|---|
| 1 | .21 | |
| 2 | .33 | |
| 3 | .42 | |
| [redacted] | | *Mid-Range* |
| 9 | 1.21 | |
| 10 | 1.29 | |

This analysis line would read as follows:

| # | DOLLARS/SQ.FT. | | MID RANGE | |
|---|---|---|---|---|
| BLDS | AVG | MEDIAN | LOW | HIGH |
| 10 | | .82 | .42 | 1.16 |

The Number of Buildings (BLDS) shows the exact number of buildings supplying data for each income or expense category. It is an extremely significant figure because the number of buildings may vary per income or expense line item. Even if 20 buildings reported data for a particular city, it would not be unusual for only 12 of those buildings to provide data on, for example, elevator repair expenses. This value is therefore a measure or indicator of data quality: The larger the number, the more reliable the calculation of averages.

**Income and Expense Categories**

Income summary categories in the *Experience Exchange Report* include Office Area, Retail Area, Other Area, Total Rent, Net Parking Income, Miscellaneous, and Total Income.

Expense summary categories in the *Experience Exchange Report* include Cleaning, Repairs and Maintenance, Utilities, Roads/Grounds/Security, Administrative, Total Operating Expenses, Fixed Expenses, Total Operating and Fixed Expenses, Leasing Expenses, Total Payroll, and Total Contracts.

**3**

| | # | DOLLARS/SQ. FT. | | MID RANGE | |
|---|---|---|---|---|---|
| **INCOME** | BLDS | AVG | MEDIAN | LOW | HIGH |
| OFFICE AREA | 17 | | | | |
| RETAIL AREA | 1 | 15.88 | 15.88 | | |
| OTHER AREA | | | | | |
| TOTAL RENT | 17 | 13.60 | 13.88 | 7.82 | 16.34 |
| NET PARKING INC | 11 | .99 | .78 | .21 | 1.20 |
| MISCELLANEOUS | 12 | .99 | .09 | .02 | .41 |
| TOTAL INCOME | 17 | 14.33 | 14.76 | 8.18 | 17.28 |
| **EXPENSE** | | | | | |
| CLEANING | 17 | .75 | .71 | .66 | .85 |
| REPAIR-MAINT | 17 | 1.15 | .81 | .58 | 1.18 |
| UTILITIES | 17 | 2.04 | 1.67 | 1.48 | 1.86 |
| RDS/GRNDS/SEC | 17 | .95 | .57 | .49 | .95 |
| ADMINISTRATIVE | 17 | .47 | .43 | .25 | .51 |
| TOTAL OPER EXP | 17 | 5.36 | 4.22 | 3.77 | 4.82 |
| FIXED EXPENSES | 17 | 1.10 | 1.10 | .83 | 1.30 |
| TOTAL OPER – FIX | 17 | 6.46 | 5.51 | 4.86 | 5.88 |
| LEASING EXP | 16 | .50 | .23 | .02 | .46 |
| TOTAL PAYROLL | 17 | .85 | .31 | .28 | .39 |
| TOTAL CONTRACT | 17 | 1.91 | 1.58 | 1.34 | 2.77 |

In the Expense Summary Section, two line items are not actually separate expenses, but are extracted from the operating expense components. These line items are the Total Payroll and Total Contracts categories.

**4**

| | | | |
|---|---|---|---|
| TOTAL PAYROLL | 17 | .85 | .31 |
| TOTAL CONTRACT | 17 | 1.91 | 1.58 |

### Tenant/Occupancy Information

The upper right section of the analysis provides information on the tenant and occupancy characteristics of the buildings reporting. For each tenant/occupancy item the figure in the first column is the statistical value while the figure in the second column represents the number of buildings reporting that item.

5

| OCCUPANCY INFO. | | BLDG |
|---|---|---|
| AVG SQFT/OFFICE TENANT | 11736 | 16 |
| AVG SQFT/RETAIL TENANT | 1812 | 1 |
| AVG SQFT/OFFICE WORKER | 260 | 14 |
| AVG % OFFICE OCCUPANCY | 89.6 | 17 |
| AVG % RETAIL OCCUPANCY | 92.0 | 1 |
| AVG $ RATE YR-END RENT | 16.84 | 17 |
| AVG NET PRKNG INC/STALL | 1366.20 | 5 |
| RENTABLE/GROSS SQFT | .84 | 17 |

Tenant/Occupancy information is calculated as follows:

### Average Square Feet Per Office Tenant

The Average Square Feet Per Office Tenant is computed by first calculating the actual occupied square footage of each building in the sample by multiplying the square footage of office space in each building by its office occupancy rate. These occupied square footages are then totaled for the entire sample.

Next, the number of tenants is totaled for the sample. Finally, the number of tenants is divided into the total amount of occupied office space to obtain the Average Square Feet Per Office Tenant.

### Average Square Feet Per Retail Tenant

The Average Square Feet Per Retail Tenant is calculated in the same manner as that for office tenants except of course using retail space, retail occupancy rates, and retail tenants.

### Average Square Feet Per Office Worker

Once again the Average Square Feet Per Office Worker is calculated similarly to the previous descriptions with the exception of using office space, office occupancy, and building population information.

### Average Office Occupancy and Average Retail Occupancy

Average Office Occupancy and Average Retail Occupancy are calculated in a manner similar to the prior items. First, the actual occupied square footage of each building is calculated by taking the square footage of the office (or retail) space and multiplying by the office (or retail) occupancy rate. These occupied square footages are then totaled for the entire sample. Next, the total office (or retail) square footages are totaled for the entire sample. Finally, the total occupied office (retail) square footage is divided by the total office (or retail) square footage to obtain the average occupancy rate.

### Average Rate Year-End Rent

The Average Rate Year-End Rent is the average of the base rate of the last space rented during calendar year 1991 and is calculated the same way as all other averages. The year-end base rent for each building is first calculated by multiplying the year-end dollar per square foot base rent by the square footage of office space. The calculated dollar amounts are totaled and then divided by the summation of office space.

### Average Net Parking Income/Stall

The average net parking income per stall is calculated by dividing the summation of net parking income (gross parking income minus expenses), by the summation of the number of parking stalls.

### Rentable/Gross Square Feet

Rentable/Gross Square Feet is calculated by totaling the "Total Construction Area of Building" figures for the sample, then totaling the "Total Rentable Square Feet" figures, and dividing the total of the Construction Area into the total of the "Total Rentable Square Feet." This statistic is designed to give the average efficiency ratio of the buildings in the sample.

### Expense Detail Section

The bottom section of each analysis provides expense detail information. These expenses are components of the summary expense categories given in the upper Expense Summary Section. Over 50 individual expense detail categories are provided. A sample of this section:

6

| DETAIL* | AVERAGE | BLDG |
|---|---|---|
| CLEANING TOTAL | .71 | 17 |
| PAYROLL | | |
| CONTRACT | .57 | 17 |
| SUP/MAT/MISC | .06 | 17 |
| TRASH REMOVAL | .07 | 17 |
| REPR/MAINT TOTAL | .81 | 17 |
| PAYROLL | .26 | 17 |
| ELEVATOR | .06 | 12 |
| HVAC | .11 | 13 |
| ELECTRICAL | .04 | 17 |
| STRUCT/ROOF | .05 | 7 |
| PLUMBING | .01 | 15 |
| FIRE/LIFE SFTY | .02 | 13 |
| OTHER MAINT/SUP | .21 | 17 |

In the lower Expense Detail Section only an Average figure is given for an expense detail category along with the Number of Buildings reporting that category. All Average figures represent Total Building Rentable Area.

The category totals in the Expense Detail Section will often vary slightly, in both dollar total and number of buildings, from the expense summary figures in the Summary Section. This is due to the format of the survey form. The front page of the EER survey form provides the Summary Section and Tenant/Occupancy information figures. The back page, which is optional to the survey respondent, supplies Expense Detail data.

Many respondents report zero values for detailed expense categories (zero and blank responses are treated equivalently). In order to incorporate as much information as possible into the analyses, each expense item in the analysis is calculated separately according to the number of buildings responding to that survey question. This data compilation system allows use of individual data items even when a form is incomplete. The component figures, including the Expense Detail totals, stand by themselves. Consequently, the Number of Buildings statistic is very important when examining an analysis: it reveals how many buildings actually responded to a survey question.

In short, each statistic, whether an individual component or total category, can be considered meaningful in its own right and representative of the widest amount of data available.